

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the present application:

1. (Currently amended): A method for creating a file information database comprising:
scanning a storage server having a directory structure;
collecting data regarding the directory structure;
assigning [[an]] a first identification (ID) number to a first directory and a second ID number to a second directory in the directory structure according to a depth first search (DFS) order; and
writing a data structure including the first ID number, the second ID number and a relation between the first directory and the second directory.
2. (Original): The method of claim 1, wherein scanning and collecting comprise scanning and collecting by using an agent separate from the storage server.
3. (Original): The method of claim 2, wherein the agent has a first file system, and the storage server has a second file system, and wherein the first file system is different from the second file system.
4. (Currently amended): The method of claim 1, wherein the relation indicates that the first directory is an immediate child of the second directory ~~writing a data structure comprises:~~
~~writing a first subset of the data structure including the ID number of the~~
~~directory; and~~
~~writing a second subset of the data structure including a second ID number of a parent~~
~~of the directory.~~
5. (Original): The method of claim 1, wherein assigning further comprises assigning the ID numbers while collecting the data.
6. (Original): The method of claim 1, wherein writing the data structure further comprises writing the data structure to a database server.

7. (Currently amended): The method of claim 4, further comprising:
receiving a request to determine the parent of the first directory; and
referencing the ~~second column~~ relation between the first directory and the second directory of the data structure to determine the parent of the first directory.
8. (Currently amended): The method of claim 4, further comprising:
receiving a request to determine an immediate child of the second directory;
searching the data structure to find any relation, including the relation between the first directory and the second directory, which indicates that the second directory is a parent in said relation; and
determining the immediate child of the second directory based on said any relation.
~~searching the second subset of the data structure to find a third subset including the ID number of the directory; and~~
~~determining the immediate child by referencing the first column and the third subset.~~
9. (Currently amended): The method of claim 4, further comprising:
receiving a request to determine a set of ID numbers of every child of ~~[[the]]~~ a third directory in the directory structure, wherein the third directory is assigned a third ID number;
determining a ~~second~~ fourth ID number of a sibling of the third directory; and
determining the set of ID numbers ~~[[is]]~~ between the third ID number ~~of the directory~~ and the ~~second~~ fourth ID number.
10. (Currently amended): A machine readable medium having stored thereon executable program code which, when executed, causes a machine to perform a method for creating a file information database ~~comprising~~, the method comprising:
scanning a storage server having a directory structure;
collecting data regarding the directory structure;
assigning ~~[[an]]~~ a first identification (ID) number to a first directory and a second ID number to a second directory in the directory structure according to a depth first search (DFS) order; and
writing a data structure including the first ID number, the second ID number and a relation between the first directory and the second directory.

11. (Original): The machine readable medium of claim 10, wherein scanning and collecting comprise scanning and collecting using an agent separate from the storage server.
12. (Original): The machine readable medium of claim 11, wherein the agent has a first file system, and the storage server has a second file system, and wherein the first file system is different from the second file system.
13. (Currently amended): The machine readable medium of claim 10, wherein the relation indicates that the first directory is an immediate child of the second directory ~~writing a data structure comprises:~~
 ~~writing a first subset of the data structure including the ID number of the~~
 ~~directory; and~~
 ~~writing a second subset of the data structure including a second ID number of a parent of the~~
 ~~directory.~~
14. (Original): The machine readable medium of claim 10, wherein assigning further comprises assigning the ID numbers while collecting the data.
15. (Original): The machine readable medium of claim 10, wherein writing the data structure further comprises writing the data structure to a database server.
16. (Currently amended): The machine readable medium of claim 13, further comprising:
 receiving a request to determine the parent of the first directory; and
 referencing the ~~second subset~~ relation between the first directory and the second directory of the data structure to determine the parent of the first directory.
17. (Currently amended): The machine readable medium of claim 13, further comprising:
 receiving a request to determine an immediate child of the second directory;
 searching the data structure to find any relation, including the relation between the first directory and the second directory, which indicates that the second directory is a parent in said relation; and
 determining the immediate child of the second directory based on said any relation.
 ~~searching the second subset of the data structure to find a third subset including the ID~~
 ~~number of the directory; and~~

~~determining the immediate child by referencing the first column and the third subset.~~

18. (Currently amended): The machine readable medium of claim 13, further comprising:
receiving a request to determine a set of ID numbers of every child of ~~[[the]]~~ a third directory in the directory structure, wherein the third directory is assigned a third ID number;
determining a ~~second~~ fourth ID number of a sibling of the third directory; and
determining the set of ID numbers ~~[[is]]~~ between the third ID number ~~of the directory~~ and the ~~second~~ fourth ID number.
19. (Currently amended): An apparatus comprising:
a server having a mass storage device;
an agent coupled to the server, the agent to collect information regarding directories stored on the mass storage device and to assign identification (ID) numbers in a DFS manner to the directories, wherein the information at least indicates relations among the directories; and
a database server coupled to the server and the agent to store the information and the ID numbers.
20. (Original): The apparatus of claim 19, wherein the server is a file server.
21. (Original): The apparatus of claim 19, wherein the server and the agent use different file systems.
22. (Original): The apparatus of claim 21, wherein the server uses one of a common internet file system (CIFS) and a network file system (NFS) and wherein the agent uses the other of the CIFS and the NFS.
23. (Original): The apparatus of claim 19, wherein the information is stored in a data structure.
24. (Currently amended): The apparatus of claim 23, wherein the data structure includes a first column ~~columns~~ to store an ID number of a first directory ~~the ID numbers of the directories,~~ a second column to store an ID number of a parent of the first directory ~~the ID numbers of parents of the directories,~~ a size of the first directory ~~directories,~~ a creation time of the first directory ~~directories,~~ and a name of the first directory ~~directories.~~

25-27. (Canceled).

28. (Original): A method for creating a logical tree comprising:

- examining a first directory from a top of a directory queue, and determining a set of children of the directory;

- assigning an ID to the first directory;

- examining the set of children and determining a first subset of files and a second subset of directories; and

- placing the second subset on the top of the directory queue.

29. (Original): The method of claim 28, wherein the ID is a depth first search (DFS) ID.

30. (Original): The method of claim 28, further comprising placing the first subset of files in a file queue.

31. (Original): The method of claim 30, further comprising:

- a directory walking thread examining the directory queue; and

- a file thread examining the file queue.

32. (Original): The method of claim 31, wherein examining the file queue further comprises recording an information about a first file taken from the file queue.

33. (Currently amended): A method for creating a file information database comprising:

- scanning a storage server having a directory structure;

- collecting data regarding the directory structure and regarding files stored on the storage server using an agent, wherein the directory structure indicates a plurality of relations among a plurality of directories;

- assigning an identification (ID) number to a directory of the plurality of directories ~~in the directory structure~~ according to a DFS order while collecting the data; and

- writing a table including the ID number and the data.

34. (Original): The method of claim 33, wherein the agent is separate from the storage server.

- 35. (Original): The method of claim 34, further comprising using an MMA to control the agent.
- 36. (Original): The method of claim 33, wherein the storage server is a filer.
- 37. (Original): The method of claim 33, wherein the storage server has first file system and the agent has a second file system different from the first file system.
- 38. (Original): The method of claim 36, further comprising generating a GUI using the MMA.